

USSR

UDC 621.382.2.002:535.376

VIL'KOTSKIY, V.A., DOMANEVSKIY, D.S., LITVINOV, V.L., LOMAKO, V.M.,  
NOVOSELOV, A.M., TRACHEV, V.D., UKHIN, N.A.

"Optical And Electrical Properties Of Irradiated GaAs Diodes (Annealing)"

V sb. Radiats. fiz. nemet. kristallov (Radiation Physics Of Nonmetallic  
Crystals--Collection Of Works), Vol 3, Part 2, Kiev, "Nauk.dumka," 1971, pp  
44-49 (from RZh--Elektronika i yeye primeneniye, No 10, October 1971,  
Abstract No 10B265)

Translation: The effect was investigated of isochronous annealing on the  
spectra of radiative recombination of n-GaAs p-n junctions irradiated by fast  
reactor neutrons. An analysis of the results obtained makes it possible to  
conclude that during neutron irradiation, the decrease of lifetime is deter-  
mined by the regions of disorder which are effective centers of nonradiative  
recombination. 3 ill. 6 ref. N.S.

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USSR

UDC: 681.3.06:51

BELONOGOV, G. G., NOVOSELOV, A. P.

"Some Quantitative Governing Principles in Automated Information Systems"

V sb. Tsifr. vychisl. tekhnika i programmir. (Digital Computer Technology and Programming--collection of works), vyp. 6, Moscow, "Sov. radio", 1971, pp 31-41 (from RZh-Kibernetika, No 7, Jul 71, Abstract No 7V723)

Translation: The paper investigates some ruling principles which occur in formalized and informalized textual information (distribution of the frequencies of appearance of message elements, dependence of the volume of the vocabulary on the volume of the message block, distribution of the lengths of message elements, etc.). It is shown that the resultant principles can be used for determining the data compression factor. Authors' abstract.

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USSR

UDC: 62-531

NOVOSELOV, B. V., KOBZEV, A. A., GCROKHOV, Yu. S., BALABOLOV, G. A.  
and POTAPOV, A. M.

"Servo System of Combined Control"

USSR Author's Certificate No 280613, filed 30 May 69, published  
1 Dec 70 (from RZh-Avtomatika, telemekhanika i vychislitel'naya  
tekhnika, No. 12, 1971, Abstract No 12A167P)

Translation: The proposed device is distinguished from the known ones by its additional self-tuned block, whose output is connected to the inputs of both differentiators, one of the inputs being tied directly to the output of the first differentiator, the other being connected through a switch. Also, the system differs in that there is an additional connection to the output of the compensating device of the second low-frequency filter, and connected to its output is a third differentiator whose output is joined to the input of the switch; there is also a connection between the second differentiator of the compensating device and a relay block, with still another differentiator connected to its input. The differentiator input is tied to the output of the first differentiator. Resume

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Computers: Analog

USSR

UDC: 621.523.8

NOVOSELOV, B. V., GOROKHOV, Yu. S., POTAPOVA, L. D.

"A Computer Device"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 32, Nov 71, Author's Certificate No 318959, Division G, filed 7 Feb 70, published 28 Oct 71

Translation: This Author's Certificate introduces a computer device which contains three parallel-connected narrow-band filters, each consisting of two integrators, a multiplier, and a scaling element. As a distinguishing feature of the patent, in order to determine the resonance frequency and the attenuation parameter of irregular signals, the scaling element is placed at the input of the filters, and the multiplier is incorporated into each filter with its input connected to the output of one integrator, while the multiplier output is connected to the inputs of the other integrator. Connected to the output of each narrow-band filter is a series circuit made up of a squarer and an averaging device. In addition, the computer device contains two adders, a divider, a main multiplier, a square

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NOVOSELOV, B. V. et al., Soviet Patent No 318959

root extractor, and an integrator, which are connected in such a way that the outputs of the averaging devices in the filters for the side frequencies are joined to the inputs of one adder whose output is connected to the input of the integrator. The integrator is connected through the square root extractor to the multipliers in the narrow-band filters, while the output of the averaging device in the filter on the main frequency is connected to an input of the other adder. A second input of this adder is connected to the first input of the divider. The second input of the divider is connected to the output of the averaging device in the filter on the main frequency. The divider output is connected to one input of the main multiplier, and the other multiplier input is connected to the integrator output.

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UDC 62-531

NOVOSELOV, B.V., KOBZEV, A.A., GOROKHOV, Yu.S.

"Combines Tracking Drive"

USSR Authors' certificate, 2lc, 46/50 (G05f), No 259227, Filed 22/06/68,  
Published 6/05/70 (Translated from Referativnyy Zhurnal Avtomatika, Teleme-  
khanika i Vychislitel'naya Tekhnika, No 1, 1971, Abstract No 1A280P)

Translation: A combined tracking drive is suggested which contains a base loop with a comparison element; a primary self-tuning loop with a differentiator connected to the output terminal; a multiplier, integrator, and comparison element; a second self-tuning loop with an integrator and multiplier, the input of which is connected to the comparison element of the base loop; and a relay unit. In order to minimize the mean square error in processing a suddenly shifting signal, a signal changing with constant rate and acceleration, or a sinusoidal signal at various frequencies, two series-connected differentiators, a dividing device, root extraction device, second relay unit, integrator, multiplier, and adder are included, connected to the input

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NOVOSELOV, B.V., et al., USSR Authors' certificate, 21c, 46/50 (G05f), No 259227, Filed 22/06/68, Published 6/05/70 (Translated from Referativnyy Zhurnal Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 1, 1971, Abstract No 1A280P)

of the base loop, with the input of the integrator connected to the output of the comparison element of the base loop; the input of the first additional differentiator is connected in parallel to the differentiator of the first self-tuning loop, the first relay unit, the divider, the multiplier of the first self-tuning loop, and the adder of this loop, connected to the base loop; the input of the second additional differentiator is connected to the second relay unit and the inputs of the additional multiplier and adder; the output of the second additional differentiator is connected to the second input of the first relay unit and the integrator of the second self-tuning unit; the output of the root extracting device is connected to the third input of the first relay unit, which is connected to the integrator of the first self-tuning loop.

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USSR

UDC:621.039.59

NOVOSELOV, G. P., DOGAYEV, YU. D. and PEREVOZCHIKOV, S. A.

"Losses of Uranium and Plutonium from Steel During Thermal Opening of Fuel Elements"

Moscow, Atomnaya Energiya, Vol 36, No 1, Jan 74, pp 69-70

Abstract: The disassembly of highly active fuel assemblies of fast reactors, their opening and separation of steel from fuel are among the most difficult problems in the process of regeneration. The losses of nuclear fuel with the steel must be minimal, so as to allow long-term storage of the steel without additional treatment. This article calculates the rates and times of settling of uranium dioxide particles of various sizes in drops of liquid steel. The calculations indicate that only for particles 10  $\mu$  or less in diameter will the settling time be over 1 minute. The calculations performed confirm the conclusion drawn earlier that the separation process can be successfully performed in the drop of steel, resulting in the production of steel ingots with less than 1% contamination with fuel and relatively low activity.

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1/2 024 UNCLASSIFIED PROCESSING DATE--30OCT70  
TITLE--INTERACTION OF URANIUM AND ITS ALLOYS WITH ALKALI METAL FLUORIDES  
-U-  
AUTHOR--(03)-NOVOSELOV, G.P., KASHCHEYEV, I.N., DOGAYEV, YU.D.  
COUNTRY OF INFO--USSR  
SOURCE--AT. ENERG. 1970, 28(1), 48  
DATE PUBLISHED-----70  
SUBJECT AREAS--CHEMISTRY  
TOPIC TAGS--URANIUM, CHEMICAL REACTION RATE, NICKEL, IRON, CALCIUM  
FLUORIDE, URANIUM COMPOUND, LITHIUM FLUORIDE, POTASSIUM COMPOUND, SODIUM  
COMPOUND  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRA--1998/0487 STEP NO--UR/0089/70/028/001/0048/0048  
CIRC ACCESSION NO--AP0121161  
UNCLASSIFIED

2/2 024

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0121161

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. AT LESS THAN 1723DEGREESK, THE REACTION BETWEEN METALLIC U AND MOLTEN CAF SUB2 IS NEGLIGIBLE, AND CAF SUB2 MAY BE USED AS AN INERT SOLVENT FOR ALKALI METAL FLUORIDES IN THE CONVERSION OF U TO UF SUB4 BY REACTION WITH SUCH FLUORIDES. THUS, AT 1523DEGREESK, THE REACTION RATE BETWEEN U AND SUCH FLUORIDES INCREASES SHARPLY WITH INCREASING ALKALI METAL FLUORIDE CONC. C IN THE CAF SUB2, AND IN THE CASE OF C EQUALS 50 WT.PERCENT, THE RATE OF CONVERSION OF THE U IN LIF, NAF, AND KF SOLNS. IS 4 TIMES 10 NEGATIVE PRIME2, 6 TIMES 10 NEGATIVE PRIME2, AND 12 TIMES 20 NEGATIVE PRIME2 G-(CM PRIME2 MIN), RESP. THE REACTION BETWEEN SUCH FLUORIDE SOLNS. AND METALLIC NI OR FE IS NEGLIGIBLE.

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UDC 621.398

OL'KHOVSKIY, YU. B., NOVOSELOV, O. N., and MANOVTSEV, A. P.

"Telemetry Data Compression"

Szhatiye dannykh pri teleizmereniyakh (cf. English above), Moscow, "Sov. radio" (Soviet Radio), 1971, 303 pp, ill, 1 r. 24 k. (From RZh-Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 1, Jan 72, Abstract No 1A267K from the annotation)

Translation: The book is the first monograph on the problem of telemetry data compression and summarizes a number of investigations by Soviet and foreign researchers. The authors set forth from an engineering standpoint questions relating to quasireversible data-compression methods which will make possible subsequent retrieval of telemetered parameters. Some results are original and have to do mainly with two aspects -- mathematical and technical -- of the compression problem. A comparative analysis is given of interpolation and extrapolation algorithms making possible real-time data compression. Special attention is given to engineering feasibility of the algorithms. For the first time methods are set forth for the construction of efficient data-compression algorithms with two-parameter adaptation, based on the use of non-orthogonal, orthogonal, and eigenfunctions. Programs (in ALGOL-60 language)

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USSR

OL'KHOVSKIY, YU. B., et al., Szhatiya dannyykh pri teleizmereniyakh, 1971, 303 pp.

are presented and some estimates made of the efficiency of data-compression algorithms from the results of modeling them on general-purpose digital computers. The book is intended for engineers dealing with questions of automatic data processing, compact representation, storage, documentation and display, as well as for scientists, teachers in the schools of higher learning, and students. Ten illustrations: 10 tables; bibliography with 202 titles.

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Information Theory

USSR

UDC 621.398:621.391

OL'KHOVSKIY, YURIY BORISOVICH; NOVOSELOV, OLEG NIKOLAYEVICH; MANOVITSEV,  
ANATOLIY PETROVICH

"Data Compression During Telemetering"

Szhatiye dannykh pri teleizmereniyakh (cf English above), Moscow, "Sov.radio,"  
1971. 303 pp. 61 fig. 10 tab. 202 ref. 1 r 24 k.

Abstract: The book is the first monograph on the problem of telemetering data compression and it generalizes a number of studies by native and foreign authors. From an engineering position problems are stated pertaining to quasi-inverse methods of data compression and to guaranteeing subsequent restoration of parameters which are telemetered. Some results are original and pertain primarily to two aspects of the problem of compression -- the mathematical and technical. A comparative analysis is given of the interpolation and extrapolation of algorithms, guaranteeing data compression in a real scale of time. Particular attention is paid to algorithms realizable by engineering. For the first time methods are stated for the construction of effective algorithms of data compression with two-parametric adaptations based on the use of nonorthogonal, orthogonal and eigen-functions. A program is presented (in Algol-60 language) and some evaluations are given of the effectiveness of algorithms of data compression

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OL'KHOVSKIY, YURIY BORISOVICH, Szhatiye dannyykh pri teleizmereniyakh, Moscow, "Sov. radio," 1971, 303 pp. 61 fig. 10 tab. 202 ref. 1 r 24 k.

with respect to the results of their modelling on a general-purpose digital computer. The book is intended for engineers occupied with problems of automatic processing, compact presentation, storage, documentation and representation of information, and also for scientific workers, teachers of higher schools, and students.

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OL'KHOVSKIY, YURIY BORISOVICH, Szhatiye dannyykh pri teleizmereniyakh, Moscow, "Sov. radio," 1971, 303 pp. 61 fig. 10 tab. 202 ref. 1 r 24 k.

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OL'KHOVSKIY, YURIY BORISOVICH, Szhatiye dannyykh pri teleizmereniyakh, Moscow, "Sov. radio," 1971, 303 pp. 61 fig. 10 tab. 202 ref. 1 r 24 k.

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OL'KHOVSKIY, YURIY BORISOVICH, Szhatiye dannyykh pri teleizmereniyakh, Moscow, "Sov. radio," 1971, 303 pp. 61 fig. 10 tab. 202 ref. 1 r 24 k.

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OL'KHOVSKIY, YURIY BORISOVICH, Szhatiye dannyykh pri teleizmereniyakh, Moscow, "Sov. radio," 1971, 303 pp. 61 fig. 10 tab. 202 ref. 1 r 24 k.

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OL'KHOVSKIY, YURIY BORISOVICH, *Szhatiye dannyykh pri teleizmereniyakh*, Moscow, "Sov. radio," 1970, 303 pp. 61 fig. 10 tab. 202 ref. 1 r 24 k.

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1/2 014 UNCLASSIFIED PROCESSING DATE--11DEC70  
TITLE--INDIRECT INTERNUCLEAR INTERACTION AND NMR CHEMICAL SHIFT IN ALPHA  
AND BETA THALLIUM IODIDE -U-  
AUTHOR--(03)-BAYDAKOV, L.A., NOVOSELOV, S.K., STRAKHEV, L.P.  
COUNTRY OF INFO--USSR  
SOURCE--FIZ. TVERD. TELA 1970, 12(4), 1173-5  
DATE PUBLISHED-----70  
SUBJECT AREAS--PHYSICS  
TOPIC TAGS--IODIDE, NUCLEAR MAGNETIC RESONANCE, CHEMICAL BONDING, THALLIUM  
COMPOUND, CHEMICAL BONDING, MOLECULAR INTERACTION  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRA--3007/0073 STEP NO--UR/0181/70/012/004/1173/1175  
CIRC ACCESSION NO--AP0135770  
UNCLASSIFIED

2/2 014

UNCLASSIFIED

PROCESSING DATE--11DEC70

CIRC ACCESSION NO--AP0135770

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. NMR WAS INVESTIGATED OF PRIME205 TL AND PRIME203 TL IN LOW TEMP. AND HIGH TEMP. MODIFICATIONS OF TLI WITH NATURAL CONTENT OF THE ISOTOPES OF TL. CHANGE IN THE CHEM. SHIFT WAS MEASURED DURING THE TRANSITION. THE 2ND MOMENTS OF THE PRIME205 TL AND PRIME203 TL LINES IN ALPHA AND BETA TLI ARE MUCH LARGER THAN CALCD. WITH ONLY THE DIRECT DIPOLE DIPOLE INTERACTION. IN ALPHA TLI, THE 2ND MOMENT OF THE PRIME203 TL LINE IS LARGER THAN THAT OF PRIME205 TL WHICH INDICATES A CONSIDERABLE HETEROPOLAR BONDING BETWEEN THE TL ATOMS. THE 2ND MOMENTS OF THE LINES OF TL ISOTOPES IN BETA TLI ARE EQUAL WITHIN EXPTL. ERROR. THIS INDICATES A WEAK HETEROPOLAR BONDING TL, TL IN THIS MODIFICATION, AND A LARGE LINEWIDTH AND LARGE NEG. CHEM. SHIFTS A CONSIDERABLE COVALENT BOND IN TL IN THE YELLOW AS WELL AS IN THE RED MODIFICATIONS.

FACILITY: LENINGRAD. GOS. UNIV. IM. ZHDANOVA,

LENINGRAD, USSR.

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Acc. Nr.

AP0047692

Abstracting Service:  
CHEMICAL ABST.

5/70

Ref. Code

U R O I 3 6

92428h Bases of the process for updraft sintering of lead charges. Novoselov, S. S.; Khobdabergenov, R. Zh.; Bryukhanov, N. G.; Kukharev, A. K. (USSR). Tsvet. Metal. 1970, 43(1), 8-13 (Russ). The updraft sintering of Pb concs. was studied. The operation required careful prepn. of the charge, esp. the maintenance of the concn. of S at 6.5-7.5 and moisture at 5.5-6.5%; addn. of recycled material 160-70 wt. % of the concn., and particle size - 10 mm. Addn. of -3-mm concn. 0.8-1% of the charge was necessary to maintain 1000-1100° in the combustion zone, since the temp. could not be controlled by the S concn. only. Addn. of concn. decreased the sinter S concn., improved the S elimination, and enhanced the quality and yield of sinter.  
E. M. Elkin

MT

REEL/FRAME  
19791268

18

Biochemistry

USSR

UDC 547.964.4+577.17



SHVACHKIN, YU. P., VDOVINA, R. G., POZNYAK, M. G., VOLUYSKAYA, YE. N.,  
RYABTSEV, M. N., KRIVTSOV, V. F., GRACHEVA, A. K., KRASHCHCHERKOV, S. P.,  
NOVOSELOV, V. A., GRUZDEV, V. S., OLEYNIK, A. M., KALINKINA, Z. B., FEDOTOV,  
V. P., IVANOV, A. I., YUDAYEV, N. A.

"New Synthesis of Human Insulin"

Leningrad, Zhurnal Obshchey Khimii, Vol XLIII (CV), No 1, 1973, pp 216-217

Abstract: Human insulin was synthesized on the basis of obtaining A and B chains by the solid phase method [R. B. Merrifield, J. Am. Chem. Soc., No 85, 2149, 1963; J. Stuart, et al., Tverdogazny sintez peptidov, Moscow, Mir, 1971] and subsequently combining the synthetic chains into the complete molecule of the biologically active hormone. Here, a new version of the synthesis is realized which permits exclusion of treatment of the chains with sodium in liquid ammonia which eliminates the danger of undesirable side reactions caused by this reagent [A. Marglin, et al., J. Am. Chem. Soc., No 88, 5051, 1966]. The A and B chains of human insulin were synthesized on an automated device using a spherical chloromethylated copolymer of styrene with 1% divinyl benzene as the insoluble carrier. All operations were performed in a nitrogen atmosphere. The derivatives of the L-amino acids used in the synthesis of the A and B chains are listed. The fluorohydrates of the chains were con-

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SHVACHKIN, YU. P., et al., Zhurnal Obshchey Khimii, Vol XLIII (CV), No 1, 1973, pp 216-217

verted into S-sulfonates which exhibited no differences from the S-sulfonates of the corresponding natural chains of bull insulin. The synthetic A and B chains were recombined both with the corresponding natural chains and among each other. The resultant compounds had specific insulin activity of comparable magnitude to the previously synthesized insulin compounds [K. Lubke, et al., Adv. Enzymol., No 33, 445, 1970].

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USSR

UDC 621.357.1.035(088.8)

NOVOSELOV, V. A., NELIDOV, V. B., MITROFANOV, V. S., ARCHAKOV, V. P.,  
EPEL'FEL'D, F. I., SOLOVEY, I. F., PETROVSKII, P. P.

"Device for Distribution of Amalgams"

USSR Author's Certificate No 295736, filed 30/09/69, published 8/04/71.  
(Translated from Referativnyy Zhurnal Khimiya, No 4, Moscow, 1972, Abstract  
No 4L245 from the resume).

Translation: A device is patented for distribution of amalgam in scrubber separators, consisting of a perforated grid with a circular tip, separating the upper plane of the grid into central and peripheral zones with apertures for distribution of the amalgam and output of hydrogen, differing in that in order to improve the flow of amalgam, eliminate wear of the fitting and prevent hydraulic shock, the apertures in the peripheral zone are made in the form of slits covered with a screen, while the apertures for passage of amalgam are located at the points of intersection of slots made on the lower plane of the grid and forming projections, preventing blockage of the apertures with granules of the packing.

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USSR

UDC 577.4

NOVOSELOV, V. G.

"Statistical Estimates of the Efficiency of Methods of Minimizing Boolean Functions"

V sb. Avtomaty, gibridn. i upravlyayushch. mashiny (Automata, Hybrid and Control Machines -- collection of works), Moscow, Nauka Press, 1972, pp 96-104 (from RZh-Kibernetika, No 7, Jul 72, Abstract No 7V387)

No abstract

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USSR

UDC 629.78.017.2

NOVOSELOV, V. S. and LAVRINOVICH, K. K., Leningrad Institute

"Determining the Angular Position and Angular Velocities at the End of a Segment of Active Change of Angular Velocity"

Leningrad, Mekh. Upravlyayem. Dvizheniya i Probl. Kosmich. Dinamiki--Sbornik (Mechanics of Motion Control and Problems of Space Dynamics--Collection of Works), 1972, pp 177-181 (from Referativnyy Zhurnal--Raketostroyeniye, No 5, May 73, Abstract No 5.41.134)

Abstract: A satellite is examined having a device capable of turning the satellite around one of its axes at the required instant. The problem is solved of determining the change in angular velocity in the course of a specified instant when this device operates. The problem is solved with the aid of integration of Euler equations for the condition when the moment of the device significantly exceeds all the remaining disturbing moments. By introducing propositions which describe the actual situation, formulas were obtained for determining the angular velocity projections at the moment of turning on the ?razgonnyy? advice. 1 bibliographic reference.

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USSR

UDC 629.78.017.2

NOVOSELOV, V. S., Leningrad Institute

"Selection of a Null Approximation for the Angular State of a Satellite Along a Section of Oriented Movement With the Dipole Approximation of the Geomagnetic Field"

Leningrad, Mekh. Uprablyayem. Dvizheniye i Probl. Kosmich. Kinamiki--Sbornik (Mechanics of Motion Control and Problems of Space Dynamics--Collection of Works), 1972, pp 123-138 (from Referativnyy Zhurnal--Faketostryeniye, No 5, May 73, Abstract No 5.41.131)

Abstract: The problem of determining the null approximation is solved for the angular state of a satellite moving in a circular orbit along a section of oriented movement. Orientation angles,  $\psi$ ,  $\varphi$ , and  $\gamma$  are approximated by trigonometric polynomials for multiple amplitudes of latitude. Only members of the second multiplicity are considered in the polynomials. The geomagnetic field of the earth is approximated with an accuracy up to 12% with the dipole field for the condition of coincidence of its axis with the earth's axis of rotation. The following problem can be stated: is it possible to determine the null approximation of angular position by the satellite's magnetometer readings? It is proved that only magnetometer readings are inadequate and additional

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NOVOSELOV, V. S., Mekh. Uprablyayem. Dvizheniye i Probl. Kosmich. Dinamiki --  
Sbornik, 1972, pp 123-138

unrelated conditions are required. Further development of this problem requires determination of the number of additional conditions which do not depend on magnetometer readings, and derivation of mathematical relationships for determining the null approximation for known values of  $\psi$ ,  $\varphi$ , and  $z_{ret}$  at certain points along the orbit. The case of determining the null approximation was examined when the direction of any vector (toward the earth, sun, etc.) was known at certain points on the satellites's orbit.

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USSR

UDC 629.78.015.076.6

NOVOSELOV, V. S.

"Analytical Theory of Optimization in Gravitational Fields"

Analiticheskaya teoriya optimizatsii v gravitatsionnykh pol'yakh (cf. English above), Leningrad University, 1972, 318 pp, ill., 2r. 8 k. (from RZh-Raketostroyeniye, ot del'nyy vypusk, No 12, Dec 72, Abstract No 12.41.95K)

Translation: A basis is presented for the method of solving the optimization problem in the form of series in powers of a small parameter. The theory of approximate analytical solution of the variation problems of optimization having restrictions on the controls in the form of inequalities is constructed. The properties of the Lagrange factors in a central field and in the field of attraction of an axisymmetric body are discussed. The solution of a series of problems of optimizing a two-pulse transition in a central field with different auxiliary conditions is obtained. An effort is made mathematically to state and approximately analytically solve the complex problem of optimization in which simultaneous and interrelated optimal selection of both the basic elliptic trajectory of the transition and the exit and entry hyperbolas is made. A comparison of the results of optimizing a complex system with the analytical solution of the corresponding transition problem in a

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NOVOSELOV, V. S., Analiticheskaya teoriya optimizatsii v gravitatsionnykh polyakh, Leningrad University, 1972, 318 pp, ill., 2 r. & k.

central field is presented. The book is intended for scientific co-workers, graduates, students in the advanced courses and also workers at the design office in the field of control processes and astromechanics.

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UDC 546.45

USSR

SIPACHEV, V. A., GRIGOR'YEV, A. I., and NOVOSELOVA, A. I. Academician

"The Properties of Beryllium Ethoxyacetate with the Composition  $\text{Be}_7\text{O}_2(\text{CH}_3\text{COO})_6(\text{OC}_2\text{H}_5)_4$  and a Method of Obtaining It"

Moscow, Doklady Akademii Nauk SSR, Vol 196, No 4, 1971, pp 834-835

Abstract: This article contains a discussion of the properties of beryllium ethoxyacetate with the composition  $\text{Be}_7\text{O}_2(\text{CH}_3\text{COO})_6(\text{OC}_2\text{H}_5)_4$  and a method of obtaining it by recrystallization of the mother liquor left after separation of  $\text{Be}_4\text{O}(\text{CH}_3\text{COO})_5(\text{OC}_2\text{H}_5)$  from the sublimate resulting from thermal decomposition of  $\text{Be}(\text{CH}_3\text{COO}) \cdot (\text{OC}_2\text{H}_5)$  in a vacuum after recrystallization from hot n-octane or extraction by n-pentane. X-rays of the powder and infrared absorption spectra of crystalline forms of the compounds are presented. In the infrared spectra of  $\text{Be}_4\text{O}(\text{CH}_3\text{COO})_6$ ,  $\text{Be}_4\text{O}(\text{CH}_3\text{COO})_5 \cdot (\text{OC}_2\text{H}_5)$ ,  $\text{Be}_7\text{O}_2(\text{CH}_3\text{COO})_6(\text{OC}_2\text{H}_5)_4$  and  $\text{Be}(\text{CH}_3\text{COO}) \cdot (\text{OC}_2\text{H}_5)$  special attention is brought to the variation in relative intensity and position of the bands caused by vibrations of the alcoxyl groups on transition from the beryllium oxymonoethoxypentaacetate to "normal" beryllium ethoxyacetate. The most characteristic changes in the spectra are observed in the 850-200  $\text{cm}^{-1}$  range.

1/1



1/2 014 UNCLASSIFIED PROCESSING DATE--04DEC70  
TITLE--LITHIUM METHOXIDE AND ETHOXIDE -U-  
AUTHOR--(02)-TURDOVA, N.YA., NOVOSELOVA, A.V.  
COUNTRY OF INFO--USSR  
SOURCE--IZV. AKAD. NAUK SSSR. SER. KHIM. 1970, (4), 752-6  
DATE PUBLISHED-----70  
SUBJECT AREAS--CHEMISTRY  
TOPIC TAGS--ORGANOLITHIUM COMPOUND, ALKOXIDE, COMPLEX COMPOUND, PYROLYSIS,  
PHASE DIAGRAM  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRA--3008/0991 STEP NO--UR/0062/70/000/004/0752/0756  
CIRC ACCESSION NO--AP0138019

2/2 014

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0138019

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE SOLYS. OF LIOME AND LIOET IN THE CORRESPONDING ALCS. WAS STUDIED AND THE VAPOR PRESSURE ISOTHERMS IN THE APPROPRIATE SYSTEMS ARE SHOWN FOR 25DEGREES AND 50DEGREES. CRYSTALLOGRAPHIC DESCRIPTIONS ARE GIVEN FOR ROLI AND ROLI2ROH. TENSIMETRIC DATA CONFIRMED THE EXISTENCE OF THE LATTER COMPLEXES, AND THESE WERE ISOLATED AS SOLIDS WITH DISTINCT CRYSTAL FORMS. THESE ARE DESOLVATED IN EQUIL. WITH THE SOLN. AT 28DEGREES FOR R EQUALS ME AND 55DEGREES FOR R EQUALS ET. THE PERITECTIC CONVERSION IS ACCOMPANIED BY THE REVERSAL OF ENTHALPY SIGN FOR THE HEAT OF SOLN. AS THE DISSOLN. ON UNSOLVATED ROLI IS AN EXOTHERMIC PROCESS. SOLY. OF THESE SALTS WAS TABULATED FROM MINUS 80 TO 100DEGREES FOR MEOLI AND FROM 0 TO 120DEGREES FOR ETOLI. THE PHASE DIAGRAMS OF LIOR-ROH ARE SIMILAR TO THOSE OF NA SUB2 SO SUB4-H SUB2 O. THE UNSOLVATED ROLI BEGAN TO PYROLYZE AT 310DEGREES FOR MEOLI AND 325DEGREES FOR ETOLI. FACILITY: MOSK. GOS. UNIV. IM. LOMONOSOVA, MOSCOW, USSR.

UNCLASSIFIED

1/2 025 UNCLASSIFIED PROCESSING DATE--27NOV70  
TITLE--ACRYLONITRILE POLYMERIZATION IN LIQUID AMMONIA -U-  
AUTHOR--(03)-KRASULINA, V.N., NOVOSELOVA, A.V., ORLOVA, G.A.  
COUNTRY OF INFO--USSR  
SOURCE--VYSOKOMOL. SOEDIN., SER. A 1970, 12(5), 1029-32  
DATE PUBLISHED-----70  
SUBJECT AREAS--CHEMISTRY  
TOPIC TAGS--LOW TEMPERATURE EFFECT, POLYMERIZATION, ACRYLONITRILE, AMMONIA  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAE--3007/1018 STEP NO--UR/0459/70/012/005/1029/1032  
CIRC ACCESSION NO--AP0136445

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--27NOV70

2/2 025

CIRC ACCESSION NO--AP0136445

ABSTRACT/EXTRACT--(U) GP-O-

ABSTRACT. THE POLYMN. OF ACRYLONITRILE (I)  
IN LIQ. NH SUB3 SOLNS. OF LI, NA, AND LINH SUB2 AT MINUS 70DEGREES GAVE  
WHITE POLYACRYLONITRILE (OF MOL. WT. 78,000-430,000) IN HIGH YIELDS.  
THE POLYMN. RATE REACHED A MAX. AT MINUS 70 TO MINUS 50DEGREES AND  
DECREASED AT HIGHER TEMPS. THE POLYMN. WAS ZERO ORDER WITH RESPECT TO  
I.

FACILITY: INST. VYSOKOMOL. SOEDIN., LENINGRAD, USSR.

UNCLASSIFIED

1/2 009 UNCLASSIFIED PROCESSING DATE--16OCT70  
TITLE--LEAD SULFIDE LEAD IODIDE SYSTEM -U-  
AUTHOR--(04)-NOVOSELOVA, A.V., ODIN, I.N., FEDOSEYEVA, I.N., POPOVKIN, B.A.  
COUNTRY OF INFO--USSR N  
SOURCE--IZV. AKAD. NAUK SSSR, NEORG. MATER. 1970, 6(1), 135-7  
DATE PUBLISHED-----70  
SUBJECT AREAS--CHEMISTRY  
TOPIC TAGS--LEAD SULFIDE, IODIDE, EUTECTIC, TELLURIDE  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAE--1996/0846 STEP NO--UR/0363/70/006/001/0135/0137  
CIRC ACCESSION NO--AP0118022

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--16OCT70

2/2 009

CIRC ACCESSION NO--AP0118022

ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. THE M.P. DIAGRAM OF THE PBS-PBI SUB2 SYSTEM WAS CONSTRUCTED FROM HEATING CURVES FOR ANNEALED SAMPLES. THE TEMPS. OF THE EFFECTS IN THE SYSTEM, AS OBTAINED FROM THE HEATING AND THE COOLING CURVES PRACTICALLY COINCIDE. THE EUTECTIC POINT OCCURS AT 17 MOLE PERCENT PBS. ONLY THE SYSTEM CONTG. 40 MOLE PERCENT PBS IS SINGLE PHASE, THE REMAINING SYSTEMS BEING 2 PHASE. THE COMPD. IN THE SYSTEM, MELTING INCONGRUENTLY AT 415DEGREES, HAS THE FORMULA  $2\text{PBS} \cdot 3\text{PBI}$  SUB2. IN ADDN. TO THE LINES OF THIS COMPD., THE 2H PBI SUB2 LINES WERE ALSO PRESENT ON X RAY DIFFRACTION PATTERNS OF SAMPLES OF COMPS. OF 5 AND 25 MOLE PRECENT PBS. THE FORMATION OF THE POLYTYPIC FORM 6R PBI SUB2 DURING THE CRYSTN. OF THE EUTECTICS IN THE PBS-PBI SUB2 AND PBTE-PBI SUB2 SYSTEMS IS PROBABLY ASSOCD. WITH THE SIMULTANEOUS CRYSTN. OF PB CHALCOGENIDE, WHICH STABILIZES THIS FORM. IN THE PBS-PBI SUB2 SYSTEM THE EUTECTIC IS FORMED BY LEAD IODIDE AND THE COMPD.  $2\text{PBS} \cdot 3\text{PBI}$  SUB2. THE SOLY. OF PBI SUB2 IN SOLID PBS AT 415DEGREES WAS ALSO DETD. BY THE SYSTEMS WERE ANNEALED FOR 780 HR. THE SOLY. BOUNDARY, AS DETD. BY THE METHODS USED, CONSTITUTES 0.8 PLUS OR MINUS 0.3 MOLE PERCENT PBI SUB2.

FACILITY: MOSK. GOS. UNIV. IM. LOMONOSOVA. MOSCOW, USSR.

UNCLASSIFIED

1/2 025 UNCLASSIFIED PROCESSING DATE--16OCT70  
TITLE--BERYLLIUM FLUORIDE YTTRIUM FLUORIDE SYSTEM AND A CROSS SECTION OF  
THE POTASSIUM FLUORIDE BERYLLIUM FLUORIDE YTTRIUM FLUORIDE SYSTEM WITH  
AUTHOR--(03)-BORZENKOVA, M.P., GALINA, V.N., NOVOSEOVA, A.V.

COUNTRY OF INFO--USSR

SOURCE--IZV. AKAO. NAUK SSSR, NEORG. MATER. 1970, 6(1), 25,30

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--BERYLLIUM COMPOUND, FLUORIDE, X RAY ANALYSIS, EUTECTIC,  
YTTRIUM COMPOUND, POTASSIUM COMPOUND

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAE--1996/0925

STEP NO--UR/0363/70/006/001/0025/0030

CIRC ACCESSION NO--AP0118093

UNCLASSIFIED

2/2 025

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0118093

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. BASED ON THE RESULTS OF THE THERMAL AND X RAY PHASE ANALYSES THE CONSTITUTION DIAGRAM OF B SUBE F SUB2 MINUS YF SUB3 SYSTEM WAS CONSTRUCTED. IN PARTICULAR, THE SECTION OF THE TERNARY KF MINUS BEF SUB2 VF SUB3 SYSTEM WITH A CONST. (5 MOLE PERCENT) KF CONTENT WAS STUDIED. THE INTERACTION IN THE BEF SUB2 MINUS VF SUB3 SYSTEM HAS A EUTECTIC CHARACTER. THE BEF SUB2 IS PRESENT IN THE SYSTEM IN THE FORM OF A QUARTZ LIKE PHASE. THE EUTECTIC IS OBSD. AT 77.5 MOLE PERCENT BEF SUB2, THE REST BEING VF SUB3, WITH THE M.P. OF THE EUTECTIC BEING 500DEGREES. BY USING DTA METHODS, THE PRESENCE OF REVERSIBLE POLYMORPHIC TRANSFORMATIONS FOR THE FLUORIDES WAS OBSD. (AT 1052DEGREES FOR VF SUB3 AND AT 220DEGREES FOR QUARTZ LIKE BEF SUB2). INVESTIGATION OF MELTS OF THIS SYSTEM, ESP. IN THE BE RICH REGION, IS ASSOCD. WITH MANY EXPTL. DIFFICULTIES DUE TO THE VOLATILITY OF THE BEF SUB2 AT LESS THAN 800DEGREES AND THE VITRIFICATION IN THE SYSTEM, THE TENDENCY TOWARDS WHICH INCREASES WITH INCREASING BEF SUB2 CONTENT. PRIOR TO THE EXPTS., THE ALLOYS WERE ANNEALED AT 400DEGREES, SOMETIMES FOR 2-3 MONTHS. DUE TO THE VITRIFICATION IN THE SYSTEM, IT WAS IMPOSSIBLE TO CONSTRUCT THE PHASE DIAGRAM ON THE BASIS OF THE COOLING CURVES. CRYSTN. OF THE SYSTEM CAN BE INDUCED BY ADDING KF. TO ENSURE EQUIL. IN SUCH A SYSTEM, LONG TERM ANNEALING (200-50 HR) AT 400DEGREES WAS REQUIRED. WHEN 5 MOLE PERCENT KF IS ADDED, THE FIELDS OF PRIMARY CRYSTN. IN THE SYSTEM REMAIN THE SAME. THREE FIELDS OF SECONDARY CRYSTN. ALSO WERE PRESENT. AT 300DEGREES THE TERNARY EUTECTIC BEF SUB2 (QUARTZ LIKE) PLUS BETA- VF SUB3 PLUS KBE SUB2 F SUB5 CRYSTALLIZES.

UNCLASSIFIED



1/2 018 UNCLASSIFIED PROCESSING DATE--23OCT70  
TITLE--2H FORM PBI SUB2 CONVERSION UPON HEATING -U-  
AUTHOR-(04)-ODIN, I.N., BALEK, V., POPOVKIN, B.A., NOVOSELOVA, A.V.  
COUNTRY OF INFO--USSR  
SOURCE--VESTN. MOSK. UNIV., KHIM. 1970, 11(1), 115-17  
DATE PUBLISHED-----70  
SUBJECT AREAS--PHYSICS, CHEMISTRY  
TOPIC TAGS--X RAY DIFFRACTION, LEAD COMPOUND, IODIDE, PHOTOCONDUCTIVITY  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRA--1997/1473 STEP NO--UR/0189/70/011/001/0115/0117  
CIRC ACCESSION NO--AP0120260

UNCLASSIFIED

2/2 018

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0120260

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. CONVERSION OF THE 2H FORM OF PBI SUB2 INTO A "MIXED" STRUCTURE UPON HEATING IS SHOWN BY THE EMANATION THERMAL METHOD AND BY X RAY DIFFRACTION. THE CONVERSION TAKES PLACE AT A HEATING RATE OF 3-5DEGREES PER MIN AT 140-400DEGREES. THIS CONVERSION IS ONE OF THE REASONS FOR THE INCREASED PHOTOCOND., RESULTING FROM THE MANY DEFECTS.

UNCLASSIFIED

1/2 012 UNCLASSIFIED PROCESSING DATE--16OCT70  
TITLE--SECTIONS IN THE LEAD TELLURIUM IODINE TERNARY SYSTEM -U-  
AUTHOR--(03)-ODIN, I.N., POPOVKIN, B.A., NOVOSELOVA, A.V. *N*  
COUNTRY OF INFO--USSR  
SOURCE--IZV. AKAD. NAUK SSSR, NEORG. MATER. 1970, 6(3), 482-5  
DATE PUBLISHED-----70  
  
SUBJECT AREAS--MATERIALS  
  
TOPIC TAGS--LEAD COMPOUND, TELLURIUM COMPOUND, IODINE COMPOUND, ELECTRIC  
PROPERTY, PHASE DIAGRAM  
  
CONTROL MARKING--NO RESTRICTIONS  
  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FKAME--1996/0836 STEP NO--UR/0363/70/006/003/0482/0485  
  
CIRC ACCESSION NO--AP0118012  
UNCLASSIFIED

272 012

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0118012

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE THERMAL ANAL. METHOD WAS USED TO STUDY SOME SECTIONS IN THE TERNARY PB-TE-I SYSTEM. THE QUASIBINARY PBI SUB2-TE SECTION WAS STUDIED AND PHASE DIAGRAMS ARE PRESENTED FOR THE PB-PBI SUB2 SYSTEM AND FOR THE POLYTHERMAL PBTE-(PB PLUS PBI SUBW) (1:1) SECTION. BY USING THE MICROSTRUCTURAL ANAL. METHOD AND ON THE BASIS OF MICROHARDNESS, ELEC. RESISTIVITY, AND THERMAL EMF. MEASUREMENTS OF ANNEALED ALLOYS, THE BOUNDARIES OF THE SOLID SOLNS. BASED ON PBTE AT 398DEGREES WERE DETD. UPON ALLOYING OF PBTE WITH THE MIXT. PB PLUS PBI SUB2 IN THE 3 PHASE REGION THE ELEC. PROPERTIES OF THE ALLOYS VARY AS A FUNCTION OF THE COMPN., WHILE IN THE 2 PHASE REGION OF THE PBTE-PBI SUB2 SECTION THEY REMAIN CONST. THIS IS APPARENTLY ASSOCD. WITH THE PRESENCE OF THE METALLIC PB PHASE, WHICH CONTRIBUTES TO THE ELEC. PROPERTIES OF THE ALLOYS. FACILITY: MOSK. GOS. UNIV. IM. LOMONOSOVA, MOSCOW, USSR.

UNCLASSIFIED

1/2 024 UNCLASSIFIED PROCESSING DATE--18SEP70  
TITLE--PHYSICOCHEMICAL STUDY OF LEAD CHALCOGENIDE AND LEAD BROMIDE SYSTEMS

-U-

AUTHOR--(03)-NOVOSELOVA, A.V., ODIN, I.N., POPOVKIN, B.A.

COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK SSSR, NEORG. MATER. 1970, 6(2) 257-61

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--PHYSICAL CHEMISTRY PROPERTY, X RAY ANALYSIS, EUTECTIC MIXTURE,  
PHASE DIAGRAM, LEAD COMPOUND, BROMIDE, SELENIUM COMPOUND, CRYSTAL  
STRUCTURE, TELLURIUM COMPOUND

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1988/0559

STEP NO--UR/0363/70/006/002/0257/0261

CIRC ACCESSION NO--AP0105544

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--18SEP70

2/2 024

CIRC ACCESSION NO--AP0105544

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. BY USING DTA AND X RAY PHASE AND MICROSTRUCTURAL ANAL. METHODS, COMPODS. EXHIBITING A CONSIDERABLE HOMOGENEITY REGION WERE OBSD. IN THE PBS MINUS PBBR SUB2 AND PBSE MINUS PBBR SUB 2 SYSTEMS, NAMELY PB SUB7 NEGATIVEX S SUB2 NEGATIVE2X BR SUB10 POSITIVE2X (0 SMALLER THAN OR EQUAL TO X SMALLER THAN 0.3) AND PB SUB7 NEGATIVEX SE SUB2 NEGATIVE2X BR SUB10 POSITIVE2X (0 SMALLER THAN X SMALLER THAN 0.25). THE COMPODS. MELT INCONGRUENTLY: PB SUB7 S SUB2 BR SUB10 M. 394DEGREES AND PB SUB7 SE SUB2 BR SUB10 M. 383DEGREES. THE POSITIONS OF THE EUTECTIC POINTS IN THE SYSTEMS ARE AT 349DEGREES AND 9 MOLE PERCENT PBS, AND AT 353DEGREES AND 6 MOLE PERCENT PBSE. PB SUB7 S SUB2 BR SUB10 IS HEXAGONAL WITH ALPHA 12.28 AND C 4.33 ANGSTROM; ZETA EQUALS 1, AND THE X RAY D. IS 6.79. THE FUSIBILITY DIAGRAM OF THE PBTE MINUS PBBR SUB2 SYSTEM CORRESPONDS TO A SYSTEM WITH A EUTECTIC OF THE DEGENERATE TYPE, AT 368DEGREES.

UNCLASSIFIED

1/2 024 UNCLASSIFIED PROCESSING DATE--18SEP70  
TITLE--PHYSICOCHEMICAL STUDY OF LEAD CHALCOGENIDE AND LEAD BROMIDE SYSTEMS  
-U-  
AUTHOR--(03)-NOVOSELOVA, A.V., ODIN, I.N., POPOVKIN, B.A.  
COUNTRY OF INFO--USSR N  
SOURCE--IZV. AKAD. NAUK SSSR, NEORG. MATER. 1970, 6(2) 257-61  
DATE PUBLISHED-----70  
SUBJECT AREAS--CHEMISTRY  
TOPIC TAGS--PHYSICAL CHEMISTRY PROPERTY, X RAY ANALYSIS, EUTECTIC MIXTURE,  
PHASE DIAGRAM, LEAD COMPOUND, BROMIDE, SELENIUM COMPOUND, CRYSTAL  
STRUCTURE, TELLURIUM COMPOUND  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRA--1988/0559 STEP NO--UR/0363/70/006/002/0257/0261  
CIRC ACCESSION NO--AP0105544  
UNCLASSIFIED

2/2 024

UNCLASSIFIED

PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0105544

ABSTRACT/EXTRACT--(U) GP-0-- ABSTRACT. BY USING DTA AND X RAY PHASE AND MICROSTRUCTURAL ANAL. METHODS, COMPOS. EXHIBITING A CONSIDERABLE HOMOGENEITY REGION WERE OBSD. IN THE PBS MINUS PBBR SUB2 AND PBSE MINUS PBBR SUB 2 SYSTEMS, NAMELY PB SUB7 NEGATIVEX S SUB2 NEGATIVE2X BR SUB10 POSITIVE2X (0 SMALLER THAN OR EQUAL TO X SMALLER THAN 0.3) AND PB SUB7 NEGATIVEX SE SUB2 NEGATIVE2X BR SUB10 POSITIVE2X (0 SMALLER THAN X SMALLER THAN 0.25). THE COMPOS. MELT INCONGRUENTLY: PB SUB7 S SUB2 BR SUB10 M. 394DEGREES AND PB SUB7 SE SUB2 BR SUB10 M. 383DEGREES. THE POSITIONS OF THE EUTECTIC POINTS IN THE SYSTEMS ARE AT 349DEGREES AND 9 MOLE PERCENT PBS, AND AT 353DEGREES AND 6 MOLE PERCENT PBSE. PB SUB7 S SUB2 BR SUB10 IS HEXAGONAL WITH ALPHA 12.28 AND C 4.33 ANGSTROM; ZETA EQUALS 1, AND THE X RAY D. IS 6.79. THE FUSIBILITY DIAGRAM OF THE PBTE MINUS PBBR SUB2 SYSTEM CORRESPONDS TO A SYSTEM WITH A EUTECTIC OF THE DEGENERATE TYPE, AT 368DEGREES.

UNCLASSIFIED



1/2 018 UNCLASSIFIED PROCESSING DATE--18SEP70  
TITLE--LEAD TELLURIDE AND MERCURY TELLURIDE SYSTEM -U-  
AUTHOR--(03)-VANYARKHO, V.G., ZLOMANOV, V.P., NOVOSELOVA, A.V. *W*  
COUNTRY OF INFO--USSR  
SOURCE--IZV. AKAD. NAUK SSSR, NEORG. MATER. 1970, 6(1), 133-4  
DATE PUBLISHED-----70  
SUBJECT AREAS--CHEMISTRY, MATERIALS  
TOPIC TAGS--EUTECTIC MIXTURE, SOLID SOLUTION, PHASE ANALYSIS, X RAY  
DIFFRACTION ANALYSIS, ELECTROMOTIVE FORCE, LEAD COMPOUND, MERCURY  
COMPOUND, TELLURIUM COMPOUND, CRYSTALLIZATION, SOLID SOLUTION  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRA--1988/0616 STEP NO--UR/0363/70/006/001/0133/0134  
CIRC ACCESSION NO--AP0105598  
UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--18SEP70

2/2 018

CIRC ACCESSION NO--AP0105598

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PBTE-HGTE SYSTEM WAS STUDIED BY DTA, X RAY DIFFRACTION, AND MICROSTRUCTURAL ANAL., AS WELL AS BY THE MEASUREMENT OF THE MICROHARDNESS AND THE THERMAL EMF. AS A FUNCTION OF COMPN. TWO SERIES OF SAMPLES OF THE FOLLOWING COMPNs. WERE PREPD.: 100-90 MOLE PERCENT PBTE AT EVERY 2 MOLE PERCENT, AND AFTER THAT, OVER THE ENTIRE COMPOSITIONAL RANGE AT EVERY 5 MOLE PERCENT. THE SAMPLES OF THE 1ST SERIES WERE REMELTED WITH VIBRATIONAL AGITATION AND WERE ANNEALED AT 560DEGREES FOR 1100 HR. THE SAMPLES OF THE 2ND SERIES WERE CRUSHED (TO 250 MESH) AFTER SMELTING, THEN PLACED INTO EVACUATED QUARTZ AMPULS AND IMMEDIATELY BEFORE THE HOMOGENIZATION ANNEALING WERE HEATED TO A TEMP. WHICH WAS 50DEGREES HIGHER THAN THE TEMP. OF THE EUTECTIC. THE 2 PROBE METHOD WAS USED TO DET. THE DEPENDENCE OF THERMAL EMF. ON THE COMPN. NO LINES CORRESPONDING TO THE INITIAL COMPONENTS WERE OBSD. ON THE X RAY DIFFRACTION PATTERNS OF OYNTHESIZED PBTE AND HGTE. THE UNIT CELL PARAMETERS WERE DETD. BY THE EXTRAPOLATION FUNCTION METHOD AND ARE ALPHA EQUALS 6.450 ANGSTROM FOR HGTE AND ALPHA EQUALS 6.458 ANGSTROM FOR PBTE. THE PBTE-HGTE SYSTEM IS A QUASIBINARY SECTION OF THE TERNARY PB-HG-TE SYSTEM, AND IT INTERSECTS 2 FIELDS OF PRIMARY CRYSTN.: THAT OF THE SOLID SOLN. OF HGTE IN PBTE (ALPHA PHASE), AND THAT OF THE HGTE BASED SOLID SOLN. (BETA PHASE) AND THE SEGREGATION REGION. THE PRIMARY CRYSTN. OF ALPHA AND BETA SOLID SOLNS. TERMINATES AT THE EUTECTIC TEMP 605DEGREES. THE REGION OF ALPHA SOLID SOLN EXTENDS TO 5 MOLE PERCENT HGTE.

UNCLASSIFIED

1/2 020  
UNCLASSIFIED  
PROCESSING DATE--11SEP70  
TITLE--TEMPERATURE COMPOSITION PHASE DIAGRAM OF A SODIUM TELLURIDE  
TELLURIUM SYSTEM -U-  
AUTHOR--FINOGENOVA, V.K., USKOV, A.A., POPOVKIN, B.A., NOVOSELOVA, A.V.  
COUNTRY OF INFO--USSR  
SOURCE--VESTN. MOSK. UNIV., KHIM. 1970, 11(1), 56-8  
DATE PUBLISHED-----70  
SUBJECT AREAS--MATERIALS  
TOPIC TAGS--THERMAL EFFECT, PHASE DIAGRAM, SODIUM COMPOUND, TELLURIUM, X  
RAY ANALYSIS, EUTECTIC MIXTURE  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRA--1989/0613  
STEP NO--UR/0189/70/011/001/0056/0058  
CIRC ACCESSION NO--AP0107210  
UNCLASSIFIED

2/2 020

CERC ACCESSION NO--AP0107210  
ABSTRACT/EXTRACT--(U) GP-0-

UNCLASSIFIED

PROCESSING DATE--11SEP70

ABSTRACT. THE NA SUB2 TE AND TE SYSTEM WAS STUDIED BY THERMAL AND X RAY PHASE ANAL. METHODS AND THE PHASE DIAGRAM WAS DETD. IN ADDN. TO NA SUB2 TE, 2 OTHER COMPS. ARE FORMED IN THE SYSTEM: NATE SUB3 M. CONGRUENTLY AT 455 PLUS OR MINUS 5DEGREES AND NATE M. INCONGRUENTLY AT 360 PLUS OR MINUS 5DEGREES. THE EUTECTIC BETWEEN THE COMPS. IS AT 40 MOLE PERCENT NA SUB2 TE AND 320.5DEGREES. NATE SUBE FORMS A EUTECTIC WITH TE AT SIMILAR TO 9PERCENT NA SUB3 TE 405 PLUS OR MINUS 5DEGREES. THE M.P. FOR NA SUB2 TE WAS FOUND TO BE 1035 PLUS OR MINUS 5DEGREES. THE X RAY PHASE ANAL. IS IN COMPLETE AGREEMENT WITH THE DATA FROM THE THERMAL ANAL.

UNCLASSIFIED

1/2 016  
TITLE--PRESSURE, TEMPERATURE, COMPOSITION DIAGRAM FOR LEAD TELLURIDE -U-  
AUTHOR--GASKOV, A.M., ZLOMANOV, V.P., NOVOSELOVA, A.V.  
COUNTRY OF INFO--USSR  
SOURCE--VESTN. MOSK. UNIV., KHIM. 1970, 11(1), 49-50  
DATE PUBLISHED-----70  
SUBJECT AREAS--MATERIALS  
TOPIC TAGS--VAPOR PRESSURE, THERMAL EFFECT, PHASE DIAGRAM, LEAD COMPOUND,  
STOICHIOMETRY, TELLURIDE  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAE--1989/0611  
STEP NO--UR/0189/70/011/001/0049/0050  
--SECTION NO--AP0107208  
UNCLASSIFIED

2/2 016

CIRC ACCESSION NO--AP0107208  
ABSTRACT/EXTRACT--(U) GP-0-

UNCLASSIFIED

PROCESSING DATE--11SEP70

ABSTRACT. A STATIC METHOD WAS USED TO STUDY THE TEMP. DEPENDENCE OF THE VAPOR PRESSURE WHICH CORRESPONDS TO THE 3 PHASE EQUIL. (LIO. PLUS SOLID PLUS VAPOR) IN THE TE,PB SYSTEM. THE VAPOR PRESSURE WAS MEASURED FOR SAMPLES CONTG. 50.5 AND 51.3 ATOM PERCENT TE WHICH, AT 500-900DEGREES, CORRESPOND TO THE 3 PHASE EQUIL. WITH THE SOLID PHASE BEING PBTE. AS THE TEMP. IS INCREASED FROM 1.15 TO 0.93 (10 PRIME3-TAU, TAU IS DEGREE SK) THE VAPOR PRESSURE FOR TE INCREASES FROM 5 TO 14.2 TORR. IT REACHES A MAX. AT 10 PRIME3-TAU EQUALS 0.84, THEN DECREASES AND THEN AGAIN INCREASES. THE DEVIATION FROM STOICHIOMETRY, WHICH DEPENDS ON THE PARTIAL PRESSURE OF TE AND ON THE EQUIL. CONST. FOR THE DEFECTS, WAS USED TO DET. THE REGION OF HOMOGENEITY FOR THE SYSTEM.

UNCLASSIFIED

Acc. Nr. **AP0055644**

Abstracting Service:  
CHEMICAL ABST. **6-10**

Ref. Code  
**420460**

**2**

- 111878y Stereospecific polymerization of trimethylsilyl methacrylate by butyllithium. Andreev, D. N.; Krasulina, V. N.; Mikhailova, N. V.; Nekrasova, I. I.; Novoselova, A. V.; Smirnova, G. S. (Inst. Vysokomol. Soedin., Leningrad, USSR). Vysokomol. Soedin., Ser. B 1970, 12(2), 123-6 (Russ). The polymn. of  $H_3C-CMeCO_2SiMe_3$  (I) in the presence of BuLi gave 90-100% of the corresponding polymer (II), which is extremely hygroscopic and is hydrolyzed by air moisture. Ir and NMR spectroscopy of poly(methacrylic acid) (III), obtained by the mild hydrolysis of II, showed that  $\leq 65\%$  of all segments are isotactic. The polymn. of I is recommended as a convenient method for the prepn. of isotactic III. CPJR ]

**11**

REEL/FRAME  
**19840946**

**1 CB**

UDC 546.289+546.23

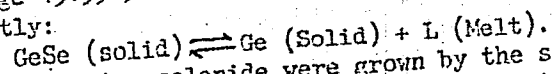
USSR

KARBANOV, S. G., STATNOVA, YE. A., ZLOMANOV, V. P., and NOVOSELOVA, A. V.,  
Chair of Inorganic Chemistry

"Study of the System Germanium-Selenium in the Proximity of Germanium Mono-  
selenide and the Growth of Its Monocrystals"

Moscow, Vestnik Moskovskogo Universiteta, Vol 13, No 5, Sep-Oct 72, pp 531-534

Abstract: The system Ge-Se has been studied by directed crystallization in the  
composition range 49.99-51.00% Se. Germanium monoselenide has been found to  
melt incongruently:



Monocrystals of germanium selenide were grown by the sublimation method in a  
closed system with movement of the ampule and under static conditions. Follow-  
ing parameters were obtained for the elementary nucleus by x-ray analysis:  
 $a = 4.42 \pm 0.02$ ,  $b = 3.87 \pm 0.02$ , and  $c = 10.85 \pm 0.05$  Å.

1/1

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UDC 547.217.4:542.943:542.976

USSR

NOVSELOVA, L. V., ZUBTSOVA, L. I., BABEL', V. G., and PROSKURYAKOV, V. A.

"Study of the Conversions of Dialkylphosphites in Synergistic Mixtures with MB-1 in the Process of Inhibited Oxidation of Decane"

Leningrad, Zhurnal Prikladnoy Khimii, Vol 46, No 6, Jun 73, pp 1329-1333

Abstract: An attempt has been made to investigate the chemical conversions of diisopropylphosphite [DIP] and diisooctylphosphite [DOP] in the process of inhibited oxidation of decane at 175° by means of IR and PMR spectroscopy. On the basis of spectral data it has been shown that the hydrocarbon portion of DIP and DOP are eliminated in pure state and in the hydrocarbon medium (175°) with the formation of phosphorus acid. An effect of synergism has been established for the composition of phosphorus acid with 4,4'-methylbis-2,6-di-tert-butylphenol [MB-1] during the process of inhibited oxidation of white oil, the reaction being carried out at 175°, with total concentration of 0.005 g-mole/l.

UDC 665.4:542.943

USSR

NOVOSEIOVA, L. V., BABEL', V. G., ZAYCHENKO, L. P., PROSKURYAKOV, V. A.

"Synergism of Mixtures of Alkylphenol and Phosphonate Antioxidants in the Process of Oxidation of White Paraffin Oil"

Leningrad, Zhurnal prikladnoy khimii, Vol 64, No 10, Oct 71, pp 2349-2352

Abstract: This paper deals with new antioxidants, their mixtures and synergistic properties. Alkylphenols are the basic antioxidants; thiocarbonates, sulfides, phosphites and phosphonates are the synergists which enhance the inhibiting action of alkylphenols. An attempt to explain the mechanism and factors responsible for the synergistic effect is described here. The experiment involved dialkylphosphonate (as the synergist) and alkylphenol (antioxidant). Mixtures of both were tested on white paraffin oil as a readily oxidizable medium. The total concentration of the inhibitors in the oil was constant and equal to 0.005 mol/l. Only the "phosphite-phenol" ratio was varied. Binary diagrams were plotted on the basis of the test data for 1/2

USSR:

NOVOSELOVA, L. V., et al, Zhurnal prikladnoy khimii, Vol 64,  
No 10, Oct 71, pp 2349-2352

each individual component and of the phosphite-phenol mixtures as functions of concentration. The results show ionol:MB-1 in ratios of 0.001:0.004 and 0.002:0.003 to have the highest synergistic effect. The maximum induction period exceeded that of the most effective inhibitor, at a concentration of the latter equal to the total, by a factor of 2.0-2.5. When used independently, the antioxidants were not very effective. In mixtures with thiophosphonate they inhibit oxygen absorption, with the effect directly proportional to the content of thiophosphonate. Curves are shown to demonstrate the kinetics of oxygen absorption during oxidation of paraffin oil in the presence of different mixtures of inhibitors at 175°C; the induction period of paraffin oil oxidation as a function of phosphonate: ionol molar ratio.

2/2

- 61 -

USSR

UDC (537.311+621.317.412):549.31:546.19

NOVOSELOVA, N. A., BAYDANOV, L. A., STRANHOV, L. P.

"Study of the Magnetic Susceptibility of Vitreous Arsenic Sulfides"

Leningrad, Vestnik Leningradskogo universiteta, No 10, Fizika i Khimiya, No 2, May 71, pp 118-124

Abstract: Earlier research on the magnetic susceptibility of vitreous alloys  $\text{AsS}_x$  ( $1.25 \leq x \leq 18$ ) is reviewed. A table containing susceptibility measurements of arsenic sulfides with As contents ranging from 9 to 44 at.% is presented. It is shown that all compositions of the vitreous arsenic-sulfur system containing elemental sulfur which was heat treated by various techniques are diamagnetic materials and that their magnetic susceptibility is independent of the field intensity. The nonadditive relationship between the magnetic susceptibility of the glasses and their composition is attributed to both structural and chemical transformations in them. Use was made of the Dorfman method to separate the experimental susceptibility values  $\chi_0$  into Langevin diamagnetic  $\chi_d$  and V. V. paramagnetic components  $\chi_p$ . The extremely low value of Van Vleck paramagnetism conforms to the  $\text{As}_2\text{S}_5$  compound and is

1/2

USSR

NOVOSELOVA, N. A., et al, Vestnik Leningradskogo universiteta,  
No 10, Fizika i khimiya, No 2, May 71, pp 118-124.

governed by the tetrahedral configuration of the structural units of  $\text{AsS}_{5/2}$  with equivalent  $\text{sp}^3$  hybridized As-S chemical bonds. The glass with the stoichiometric composition of  $\text{As}_2\text{S}_3$  appears to have maximum diamagnetism. The chemical and structural transformations in the glasses of the As-S system are discussed and the existence of an eutectic phase of  $\text{As}_2\text{S}_5$  and sulfur in the 13 at.% As range is suggested.

2/2

- 22 -

UDC 621.396.967

USSR

NOVOSELOVA, N. V., TKACHUK, A. A.

"Using a Radar Installation to Measure the Altitudes of Meteors"

Radiotekhnika. Resp. mezhved. nauch.-tekhn. sb. (Radio Engineering. Re-public Interdepartmental Scientific and Technical Collection), 1971, vyp. 1, pp 18-25 (from RZh-Radiotekhnika, No 11, Nov 71, Abstract No 11G47)

Translation: The paper describes the procedure and results of an airplane flight around antennas in the Khar'kov radar complex. A functional diagram of the flight is given as well as the radiation pattern of an antenna in the horizontal plane. The narrow width of the radiation pattern of the antenna is utilized to determine the angle of elevation of a reflecting point from the mirror-image condition when the coordinates of the radiant are known. Errors in altitude determination are  $\pm 8$  km for existing errors in radiant coordinates and radiation pattern width. The altitude distribution of meteors is given by months for 1968 measurements. Four illustrations, bibliography of 7 titles. Resumé.

1/1

172 024 UNCLASSIFIED PROCESSING DATE--04DEC70  
TITLE--THERMOLYSIS OF NEODYMIUM HYDROXYSULFATES AND HYDROXIDES -U-  
AUTHOR--(04)-MARGULIS, YE.V., SHOKAREV, M.M., NOVOSELOVA, V.N., VERSHININA,  
F.I.  
COUNTRY OF INFO--USSR  
SOURCE--ZH. NEORG. KHIM. 1970, 15(6), 1451-8  
DATE PUBLISHED-----70  
SUBJECT AREAS--CHEMISTRY  
TOPIC TAGS--THERMAL DECOMPOSITION, NEODYMIUM COMPOUND, HYDROXYL RADICAL,  
SULFATE, COMPLEX COMPOUND, IR SPECTRUM  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--3008/1200 STEP NO--UR/0078/70/015/006/1451/1458  
CIRC ACCESSION NO--AP0138215  
UNCLASSIFIED

2/2 024

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0138215

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THERMOLYSIS OF  $(\text{NH}(\text{OH}))(\text{H SUB2 O})$  SUBX (SO SUB4 (I), (NO SUB2(OH) SUB4(H SUB2 O) SUBY) SO SUB4, AND NO(OH) SUB3 GIVES NO SUB2 O SUB3 AS THE FINAL PRODUCT. IR SPECTRA OF STARTING MATERIALS AND OF INTERMEDIATE PRODUCTS ARE GIVEN. THE RELATIVE STRENGTH OF BANDS AND COORDINATION NOS. OF THESE SPECIES ARE DISCUSSED. A NEW SPECIES, NO SUB2 O(SO SUB4) SUB2, FORMED AS AN INTERMEDIATE DURING THE THERMOLYSIS OF I.

UNCLASSIFIED



1/2 009 UNCLASSIFIED PROCESSING DATE--11SEP70  
TITLE--FORMATION CONDITIONS FOR NEODYMIUM HYDROXIDE AND HYDROXOSULFATES  
-U-  
AUTHOR--MARGULIS, YE.V., NOVOSELOVA, V.N.  
COUNTRY OF INFO--USSR  
SOURCE--ZH. NEORG. KHIM. 1970, 15(2), 580-2  
DATE PUBLISHED-----70  
SUBJECT AREAS--CHEMISTRY  
TOPIC TAGS--HYDROGEN ION CONCENTRATION, CHEMICAL TERNARY SYSTEM, SODIUM  
HYDROXIDE, WATER, NEODYMIUM COMPOUND, SULFATE, HYDROXYL RADICAL  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAE--1983/0915 STEP NO--UR/0078/70/015/002/0580/0582  
CIRC ACCESSION NO--AP0053839  
UNCLASSIFIED

2/2 009 UNCLASSIFIED PROCESSING DATE--11SEP70  
CIRC ACCESSION NO--AP0053839  
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE ND SUB2(SO SUB4) SUB3-NAOH-H  
SUB2 O SYSTEM WAS STUDIED AT PH 0-6.0 AND 22DEGREES. NO(OH)SO SUB4  
FORMED AT PH SMALLER THAN 3,ND SUB2(OH) SUB4 SO SUB4 AND PH 3-4, AND  
ND(OH) SUB3 AT PH GREATER THAN 4.

UNCLASSIFIED

USSR

UDC 542.91:547.1.118

ARBUZOV, B. A., NOVOSEL'SKAYA, A. D., and VINOGRADOVA, V. S., Chemical  
Institute imeni A. M. Butlerov, Kazan' State University imeni V. I.  
Ul'yanov-Lenin

"Reaction of Some Vicinal Dihalide Compounds With One Electron Accepting  
Group Containing Sodium Triethyl Phosphite and Diethyl Phosphite"

Leningrad, Zhurnal Obshchey Khimii, Vol 43 (105), No 12, Dec 73, pp 2604-2608

Abstract: The reaction of methyl esters and nitrates of  $\alpha,\beta$ -dichloro- and  $\alpha,\beta$ -dibromopropionic acids with sodium triethyl phosphite and diethyl phosphite was studied at several temperatures [ $-7^\circ$ , to  $-10^\circ$ ,  $+7^\circ$ ,  $+20^\circ$ ,  $+110^\circ$  and  $+150^\circ$ ] as well as the reaction of  $\alpha,\beta$ -dibromodiethyl ester with triethyl phosphite at room temperature. The intermediate and final products were isolated and identified by means of IR spectral data and comparative analysis of physical properties.

1/1

1/2 011 UNCLASSIFIED PROCESSING DATE--30OCT7  
TITLE--PROPERTIES OF THE ELECTRIC DOUBLE LAYER OF A COPPER ELECTRODE. I.  
ZERO CHARGE POTENTIAL OF A COPPER ELECTRODE IN SODIUM FLUORIDE SOLUTION  
AUTHOR--(02)--YEGOROV, L.YA., NOVOSELSKIY, I.M.  
COUNTRY OF INFO--USSR  
SOURCE--ELEKTROKHIMIYA 1970, 6(4), 521-3  
DATE PUBLISHED--70  
SUBJECT AREAS--CHEMISTRY  
TOPIC TAGS--METAL ELECTRODE, COPPER, SODIUM COMPOUND, FLUORIDE  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAE--2000/0658 STEP NO--UR/0364/70/006/004/0521/0523  
CIRC ACCESSION NO--AP0124330  
UNCLASSIFIED

2/2 011

UNCLASSIFIED

PROCESSING DATE--30OCT7

CIRC ACCESSION NO--AP0124330

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE DIFFERENTIAL CAPACITY (C) OF  
CU (99.95PERCENT) ELECTRODE WAS MEASURED BY CLASSICAL BRIDGE METHODS IN  
NAF SOLNS. (9.991-0.8N) FROM PLUS 0.3 TO MINUS 0.6 V RELATIVE TO SCE A  
25DEGREES. IN 0.001N SOLN., A CAPACITY MIN. OCCURRED AT 0.09 PLUS OR  
MINUS 0.015 V. THE VARIATION OF I-C WITH I-CONCN. PRIME0.5 ON CU AGREE  
WITH THE VALUES OBTAINED ON HG IN THESE SAME SOLNS. WHEN THE SURFACE  
ROUGHNESS FACTOR WAS 1.9. FACILITY: INST. ORG. FIZ. KHIM. IM.  
ARBUZOVA, KAZAN, USSR.

UNCLASSIFIED

USSR

UDC: 621.396.96:681.32

ALEKHIN, V. A., KAZARINOV, Yu. M., KRAMUSHCHENKO, V. I., NOVOSEL'TSEV,  
L. Ya., SMIRNOV, V. N.

"On Designing Devices for Primary Processing of Radar Information"

Izv. Leningr. elektrotekhn. in-ta (News of Leningrad Electrical Engineering  
Institute), 1972, vyp. 102, pp 18-25 (from RZh-Radiotekhnika, No 12, Dec 72,  
abstract No 12G18 [résumé])

Translation: The paper deals with selecting an algorithm for primary pro-  
cessing of a scanning radar signal and modifications of arranging the  
memory of the [corresponding] device. It is shown that it is advisable to  
use weighted summation of quantized signals for short pulse trains, and  
balanced summation for long ones. It is suggested that the memory module  
be made in the form of parallel-operating "long" shift registers. In the  
case of a large number of accumulated pulses, it is recommended that the  
required memory volume be reduced by making the device in accordance with  
the principle of a multichannel queuing system. Three illustrations,  
bibliography of five titles.

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.. 92 ..

USSR

UDC 621.391.84:621.391.883.2

NOVOSELTSEV, L. YA., SMIRNOV, V. N.

"Amplitude Quantization of Signals in a Multichannel Detector"

Izv. Leningr. elektrotekhn. in-ta (News of the Leningrad Electrotechnical Institute), 1971, No 98, pp 14-17 (from RZh--Radiotekhnika, No 1, 1972, Abstract No 1A54)

Translation: By using the concept of the probability of servicing a quantized signal, a study was made of the possibility of optimal selection of the quantization threshold for the case where the sufficient attribute for the busy state of one of the independent channels of the detector is a single case where the input process exceeds the quantization threshold. It is demonstrated that the requirements of low failure probability and effective storage can be satisfied simultaneously if we compare the input process with respect to amplitude with two thresholds -- the lower and upper; this is equivalent to an increase in the number of channels by 1.5-2 times. There is 1 illustration and a 2-entry bibliography.

1/1

USSR

UDC 321.374.34

KRAMUSHCHENKO, V. I., NOVOSEL'TSEV, I. Ya., SMIRNOV, V. N., Leningrad Order of Lenin Electrotechnical Institute imeni V. I. Ul'yanov (Lenin)

"Binary Time-Amplitude Quantizer"

USSR Author's Certificate No 304683, filed 9 February 1970, published 24 May 1971 (from Otkrytiya, Izobreteniya, Promyshlennyye Obratzsy, Tovarnyye Znaki, No 17, 1971, No H 03k 5/153)

Translation: A binary time-amplitude quantizer of signals from a pulse radar containing a series connected threshold device, a comparison circuit and two standard pulse shaping triggers is introduced. It is distinguished by the fact that in order to exclude the formation of standard pulses in adjacent intervals of the quantizer from one excess pulse, between the output of the threshold device and one of the inputs of the comparison circuit an auxiliary trigger is connected via an inverter. The auxiliary trigger is connected by its second input to the output of the first standard pulse shaping trigger.

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1/2 009

UNCLASSIFIED

PROCESSING DATE--02OCT70

TITLE--CONDENSATION RESIN -U-

AUTHOR--(05)--NOVOSELTSEV, P.V., BRYZGALOVA, M.A., ZASOVA, V.A.,  
TIKHVINSKAYA, M.YU., ROZHANOVSKAYA, G.A.  
COUNTRY OF INFO--USSR

SOURCE--U.S.S.R. 260,682  
REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI 1970,  
DATE PUBLISHED--06JAN70

SUBJECT AREAS--CHEMISTRY, MATERIALS

TOPIC TAGS--CONDENSATION TYPE RESIN, CHEMICAL PATENT, PHENOL,  
FORMALDEHYDE, PHENYL ETHER

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRA--1992/0242

STEP NO--UR/0482/70/000/000/0000/0000

CIRC ACCESSION NO--AA0111436

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--02OCT70

2/2 009

CIRC ACCESSION NO--AA0111436

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A CONDENSATION RESIN WAS PREPD. BY  
TREATING PH SUB2 O WITH HCHO FOLLOWED BY CONDENSATION POLYMN. WITH PHOH.

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UNCLASSIFIED

Acc. Nr.

AP0045174

Abstracting Service:

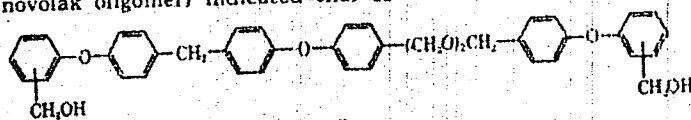
CHEMICAL ABST

5-90

Ref. Code

UR0191

90896k Oxygen-containing oligomers based on diphenyl oxide. Novosel'tsev, P. V.; Zasova, V. A.; Korshak, V. V.; Kul'kova, I. A.; Salamatova, V. A.; Sergeev, V. A. (USSR). *Plast. Massy* 1970, (1), 9-11 (Russ). The polycondensation of Ph<sub>2</sub>O with HCHO in glycerol (I), EtOH, AcOH, and AcOEt in the presence of H<sub>2</sub>SO<sub>4</sub> was studied. Optimum reaction conditions were: Ph<sub>2</sub>O-HCHO-H<sub>2</sub>SO<sub>4</sub>-solvent ratio = 1:2:0.1:0.2; reaction temp., 100°; reaction time, 10 hr. Best results were obtained in AcOH, EtOH, and I. The polycondensation gave a yellow viscous product, tentatively assigned the structure II. Thermogravimetric tests of II and Iditol (a thermoplastic novolak oligomer) indicated that II was more resistant to oxi-



dative thermal degradation, presumably due to inhibited oxidn. of the CH<sub>2</sub> bridge in II. CKJR

REEL/FRAME  
19780074

USSR

UDC 621.382.3

MIRONOV, V.A., NOVOSEL'TSEV, V.YE., PASYNKOV, V.V., SHINKOV, A.D.

"Calculation Of Time Constant Of Feedback Circuit Of Planar Transistor"

Izv. Leningr. elektrotekhn. in-ta (Journal Of The Leningrad Electrical Engineering Institute), 1972, Issue 108, pp 100-113 (from RZh:Elektronika i yeye primen-  
iye, No 11, Nov 1972, Abstract No 11B253)

Translation: A calculation is given of the dependence of the time constant of a feedback circuit on the technological and structural parameters of a planar structure transistor. A grid electrical model was used in which a planar transistor was taken as two-dimensional, i.e., the base region was considered as a thin conductive layer. A comparison of the calculated values of the time constant with those measured on an actual transistor shows that a divergence between the experimental and analytical curve is observed only in the area of large currents.  
5 ill. N.K.

1/1

USSR

UDC: 621.373

GRISHIN, Yu. P., NOVOSEL'TSEVA, T. Ya., TOLOKONNIKOV, S. V., CHIRITSO, R. L.,  
YURCHENKO, Yu. S.

"A Precision Delayed-Pulse Oscillator"

V sb. Obmen opytom v radiopromyshlennosti (Experience Pooling in the Radio Industry--collection of works), Vyp. 6, Moscow, 1970, pp 63-67 (from RZh-Radiotekhnika, No 11, Nov 70, Abstract No 11A332)

Translation: Multichannel delay circuits with interpolation scale made in the form of a digital phase shifter are used for constructing a digital delayed pulse oscillator. A delay setting discreteness of 10 nsec is attained. Individual descriptions are given of the cadence pulse generator and the digital phase shifter as the elements which are of the greatest interest. E. L.

USSR

UDC 621.791.753.9.053:661.97:620.163.4

BORISENKO, M. M., Engineer, and NOVOSHILOV, N. M., Doctor of Technical Sciences, Central Scientific Research Institute of Machinery-Manufacturing Technology

"Effect of Titanium on the Impact Ductility of the Metal of Joints Welded in Carbon Dioxide"

Moscow, Svarochnoye Proizvodstvo, No 1(471), Jan 74, pp 22-24

Abstract: The effect of titanium content on the impact ductility of the welded joint metal was investigated in experiments with two melts of 08GS-type wire, containing additionally 0.019-0.025%Al and 0.15%mo, or 0.05-0.062%Al and, for comparison, 08G2S-type industrial wire. The metal of joints welded with wires containing 0.15-0.20%Ti (0.045%Ti in the metal of joint) had the highest impact ductility and lowest transition temperature into the brittle state. The welding in carbon dioxide with Ti-containing 08GS-type wires can increase the impact ductility of the welded joint metal and can decrease the brittle failure threshold only in narrow limits of Ti-content in the metal of the joint. The effect of Ti on the properties of the metal can also change, depending on how it is present in the metal. The impact ductility  
1/2

USSR

BORISENKO, M. M., and NOVOSHILOV, N. M., Svarochnoye Proizvodstvo, No 1(471), Jan 74, pp 22-24

of the metal of joints welded with O8GST-type wire, containing up to 0.55%Ti, is lower than that of joints welded with O8G2S-type wires. Four figures, three tables, six bibliographic references.

2/2

1/2 026 UNCLASSIFIED PROCESSING DATE--30OCT70  
TITLE--EFFECT OF PH OF THE SOLUTION AND THE NATURE OF DETERGENTS ON TIN  
PLATE -U-  
AUTHOR-(02)-NOVDSHINSKAYA, N.S., TAPEKHINA, L.V.  
COUNTRY OF INFO--USSR  
SOURCE--IZV. VYSSH. UCHEB. ZAVED., PISHCH. TEKHNOL. 1970, (2), 128-9  
DATE PUBLISHED-----70  
SUBJECT AREAS--CHEMISTRY, MECH., IND., CIVIL AND MARINE ENGR, MATERIALS  
TOPIC TAGS--TIN PLATING, CORROSION, SODIUM PHOSPHATE, DETERGENT, HYDROGEN  
ION CONCENTRATION  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRA--1998/1029 STEP NO--UR/0322/70/000/002/0128/0129  
CIRC ACCESSION NO--AT0121625  
UNCLASSIFIED



UNCLASSIFIED

PROCESSING DATE--30OCT70

2/2 026

CIRC ACCESSION NO--ATO121625  
ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. THE DEPENDENCE OF TIN PLATE  
CORROSION BY 1PERCENT SOLNS. OF COM. DETERGENTS AND NA SUB3 PO SUB4 ON  
PH AND TEMP. IS GIVEN. MAX. WT. LOSS AFTER 4 HR WAS AT PH 3 AND 10  
WHILE THE MIN WAS AT PH 7 UNDER THE STATIONARY CONDITIONS AT 20DEGREES  
AND AT PH 6 AT THE FLOW RATE 1 M,SEC AT 80DEGREES. FACILITY:  
KRASNODAR. POLITEKH. INST., KRASNODAR, USSR.

UNCLASSIFIED

1/2 032 UNCLASSIFIED  
TITLE--ON THE FERMI SURFACE IN IRIDIUM -U-

PROCESSING DATE--20NOV70

AUTHOR--(03)--VOLKENSHTEYN, N.V., NOVOSYLOV, V.A., STARTSEV, V.YE.

COUNTRY OF INFO--USSR

SOURCE--ZHURNAL EKSPERIMENTAL'NOY I TEORETICHESKOY FIZIKI, 1970, VOL 58,  
NR 5, PP 1609-1611

DATE PUBLISHED--70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--MAGNETORESISTANCE, ANISOTROPY, HALL EFFECT, SINGLE CRYSTAL,  
IRIDIUM, FERMI SURFACE, ELECTRON

CENTRAL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRA--3002/0001

STEP NO--UR/0056/70/058/005/1609/1611

CIRC ACCESSION NO--AP0127651

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--20NOV70

2/2 032

CIRC ACCESSION NO--AP0127651

ABSTRACT/EXTRACT--(U) GP-C-

ABSTRACT. THE TRANSVERSE MAGNETORESISTANCE (ANISOTROPY AND FIELD DEPENDENCES) AND HALL EFFECT IN A IRIIDIUM SINGLE CRYSTAL ARE INVESTIGATED AT LOW TEMPERATURES AND MAGNETIC FIELDS UP TO 45 KOE. THE MEASUREMENT RESULTS INDICATE THAT IRIIDIUM IS A "NONCOMPENSATED" METAL AND APPARENTLY POSSESSES A CLOSED FERMI SURFACE CONSISTING OF ELECTRON AND HOLE SHEETS. THE RESULTS ARE COMPARED WITH THE THEORETICAL MODEL OF THE FERMI SURFACE FOR THIS METAL.

FACILITY: INSTITUT FIZIKI METALLOV, AKADEMII NAUK SSSR.

UNCLASSIFIED

USSR

UDC 617.781-009.24-073.96-092.9

UKHYTIL, B., NOVOTNY, M., and POLAKH, I., Clinic of Ear, Nose and Throat Diseases, and Chair of Social Medicine, Purkinje University, Brno

"Objective Recording of Postrotation Nystagmus in Experimental Animals"

Moscow, Vestnik Otorinolaringologii, No 6, 1972, pp 55-58

Abstract: Thirty guinea pigs were rotated in a specially designed chair at different speeds from 8 to 100°/sec to determine the threshold of excitability of the vestibular apparatus and establish the relationship between individual values of the electronystagmogram and the speed of rotation. None of the animals reacted to 8°/sec, the lowest rate of rotation; 1 did so to 10°/sec, 5 to 12°/sec, 16 to 14°/sec, and 24 to 16° sec. Thus, in most of the animals the threshold of excitability of the vestibular apparatus was in the 14 to 16°/sec range. The relationship between the individual values of the electro-nystagmogram and rate of rotation expressed in logarithms was found to be a linear one starting at 14°/sec.

1/1

USSR

NOVOTOROV, A. S., KRUGLITSKIY, N. N., TRETINNIK, V. Yu., PARKHOMENKO, V. V.,  
BELIK, F. A.

"Determination of the Specific Surface of Humates by the Gas-Chromatographic Method"

Khim. Tekhnologiya. Nauch.-proyizv. sb. [Chemical Technology. Scientific and Production Collection], No 2(56), 1971, pp 44-46 (Translated from Referativnyy Zhurnal, Khimiya, No 3, 1972, Abstract No 3 B1495).

Translation: A gas chromatic installation for determination of the surfaces of solids, mounted on a type LKhM-8M chromatograph, is used to study the adsorption of humic acids and humates of nitrogen and argon. The adsorption measurements are used to calculate the specific surfaces of the humic acids and humates.

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1/2 018 UNCLASSIFIED PROCESSING DATE--23OCT70  
TITLE---EFFECT OF THE ADSORPTION OF SOME MOLECULES ON THE ELECTROPHYSICAL  
PARAMETERS OF THE REAL SURFACE OF GERMANIUM -U-  
AUTHOR-(03)-KOZLOV, S.N., NOVOTOTSKIYVLASOV, YU.F., KISELEV, V.F.  
COUNTRY OF INFO--USSR  
SOURCE--FIZ. TEKH. POLUPROV. 1970, 4(2), 353-5  
DATE PUBLISHED-----70  
SUBJECT AREAS--MATERIALS, CHEMISTRY  
TOPIC TAGS--GERMANIUM ALLOY, CARBON DIOXIDE, GAS ADSORPTION, CARBON  
MONOXIDE, SURFACE AREA, OXIDE FILM  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRA--1997/1477 STEP NO--UR/0449/70/004/002/0353/0355  
CIRC ACCESSION NO--AP0120264  
UNCLASSIFIED

2/2 018

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0120264

ABSTRACT/EXTRACT--(U) CP-0- ABSTRACT. THE EFFECT WAS STUDIED OF THE ADSORPTION OF CO, CO SUB2, AND NO MOLS. ON THE SURFACE POTENTIAL,  $\chi$ , THE CURVES FOR THE CHARGE CAPTURE BY FAST SURFACE STATES ( $Q$  SUBT), THE VALUE OF THE CHARGE CAPTURED ON SLOW SURFACE STATES ( $Q$  SUMMU), THE KINETICS OF SLOW PROCESSES ( $\tau$ ), AND THE RATE OF SURFACE RECOMBINATION ( $\sigma$ ) FOR RHO AND N GE WITH A SP. RESISTANCE (25-30 OHM CM), ORIENTED PARALLEL TO THE (111) PLANE. THE FIELD EFFECT METHOD AT A HIGH, SINUSOIDAL SIGNAL WAS USED IN COMBINATION WITH THE STANDARD PHOTOCOND. THE DETNS. WERE MADE ON FRESHLY ETCHED SAMPLES (AFTER HOLDING IN A VACUUM FOR SEVERAL DAYS) AND ON SAMPLES HEATED IN A VACUUM AT 500DEGREEK. ALL OF THE MEASUREMENTS WERE MADE AT 300DEGREEK AND THE CHANGES IN THE VALUES WERE TABULATED. ON THE FRESHLY ETCHED SAMPLES ALL 3 MOLS. ACTED AS ACCEPTORS. FOR THESE A TYPICAL VALUE OF  $\tau$  IS SIMILAR TO 3-5 MIN AND ON THE HEATED SAMPLES  $\tau$  SIMILAR TO 20-30 MIN. THE DIFFERENCE IS DUE TO THE DIFFERENCE IN THE H SUB2 O CONC. IN THE OXIDE LAYER.

FACILITY: MOSK. GOS. UNIV. IM. LOMONOSOVA, MOSCOW, USSR.

UNCLASSIFIED

1/2 027  
TITLE--EFFECT OF RADICAL CHEMISORPTION ON THE ELECTROPHYSICAL PARAMETERS  
OF THE REAL SURFACE OF GERMANIUM -U-  
AUTHOR--(04)-KOZLOV, S.N., NOVOTOTSKIYVLASOV, YU.F., KISELEV, V.F.,  
SHARAPOV, V.M.  
COUNTRY OF INFO--USSR

SOURCE--FIZ. TEKH. POLUPROV. 1970, 4(2), 356-8

DATE PUBLISHED-----70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--CHEMISORPTION, GERMANIUM SEMICONDUCTOR, CRYSTAL SURFACE,  
CHARGE EXCHANGE, OXIDE FILM, EPR SPECTRUM, QUINONE, BENZENE DERIVATIVE,  
MOLECULAR INTERACTION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--1988/0084

STEP NO--UR/0449/70/004/002/0356/0358

CIRC ACCESSION NO--AP0105170

UNCLASSIFIED



UNCLASSIFIED

PROCESSING DATE--16OCT70

2/2 027  
CIRC ACCESSION NO--AP0105170  
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE CHEMISORPTION OF STRONG  
ACCEPTOR MOLS. (N-BENZOQUINONE) ON N TYPE GE WITH HIGH RESISTIVITY (27  
OHM CM) WAS STUDIED TO DET. THE MECHANISM OF CHARGE TRANSFER BETWEEN A  
SEMICONDUCTOR AND MOLS. CHEMISORBED ON THE SURFACE OF A SEMICONDUCTOR  
OXIDE FILM. ALTERATIONS IN ELECTROPHYS. PROPERTIES OF THE SURFACE WERE  
STUDIED AT 300DEGREESK ON GE PLATES ETCHED IN BOILING H SUB2 O SUB2,  
WHILE ON GE POWDER, CHEMISORPTION WAS STUDIED BY EPR. WHEN N  
BENZOQUINONE WAS LET IN, THE SURFACE WAS QUICKLY CHARGED NEG. (TAU LESS  
THAN 2 MIN), THE CONCN. OF FAST SURFACE STATES INCREASED, AND THE MAX.  
RECOMBINATION RATE INCREASED SLIGHTLY (FROM 1050 TO 1350 CM-SEC). THE  
EPR PEAK INTENSITY AFTER 1 HR CORRESPONDED TO A SPIN CONCN. OF 1.1 TIMES  
10 PRIMELL-CM PRIME2 AND WAS NOT CHANGED IN THE COURSE OF A FEW DAYS, AS  
WELL AS ELECTROPHYS. PROPERTIES OF GE IN N BENZOQUINONE VAPOR. IT IS  
ASSUMED THAT NEW SURFACE STATES CAN BE CREATED BY DIFFUSION OF ADSORBENT  
MOLS. TO THE SEMICONDUCTOR OXIDE INTERFACE. FACILITY: MOSK.  
GOS. UNIV. IM. LOMONOSOVA, MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC 621.383.53:535.232.6

GUSEV, V.A., NOVOZHENYUK, L.I.

"To A Theory Of Silicon Photothyristors"

Poluprovodn. tekhn. i mikroelektronika. Resp. mezhved. sb. (Semiconductor Technology And Microelectronics. Republic Interdepartmental Collection), 1970, No 4, pp 96-101 (from RZh--Elektronika i yeye primeneniye, No 8, August 1970, Abstract No 83225)

Translation: A theoretical analysis is presented of the operating mechanism of a silicon photothyristor. Expressions are obtained for the current-voltage characteristics in the dark and with the action of radiation for cases when the generation mechanism for conductivity and the surface loss (channel conductivity) are predominate in the central junction. It follows from the expressions obtained that the basic parameters of the photothyristor depend on the intensity of radiation, during which the sharpest change of turn-on voltage is observed during an absence of avalanche multiplication in the central junction. It is shown that photothyristors, the switching mechanism of which is determined by production of charge carriers at the central junction, have the best sensitivity during switching; however, devices with avalanche multiplication have the best freedom from interferences. 2 ill. 11 ref. N.L.

USSR

UDC: 538.113

SAMOYLOVICH, M.I., and NOVOZHILOV, A.I.

"Electron Paramagnetic Resonance Spectrum of the Radicals ( $\text{H}_3\text{C}$ ), ( $\text{H}_2\text{O}$ )<sup>-</sup>, ( $\text{HO}$ ), and Atomic Hydrogen in Beryl"

Moscow, Zhurnal Neorganicheskoy Khimii, Vol 15, No 1, 1970, pp 84-86

Abstract: A study was made of electron paramagnetic resonance (EPR) spectra of paramagnetic centers formed in alkaline beryls, that is, in crystals of beryl with a high content of alkali metal impurities as a result of the action of ionizing radiation. The beryl minerals investigated are in the class of so-called roosterites, with chemical composition typical of such crystals. Irradiated specimens (gamma-radiation of  $\text{Co}^{60}$ , integral doses from  $10^5$  to  $10^6$  roentgens) were studied on a radiospectrometer with a klystron frequency of about 9.3 gigahertz at 295 and 77°K. Judging from the EPR spectra, there are only two electron-capturing centers:  $\text{CH}_3$  and atomic hydrogen. No EPR spectra were observed in specimens heated at 300°C and higher, that is, the radicals disintegrated upon heating. The authors thank L.I. TSINOBER for his interest in the work.

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Acc. Nr.

AP0034251

Abstracting Service:

CHEMICAL ABST. 3-70

Ref. Code

4R0078

61203b EPR spectrum of  $\text{CH}_3$ ,  $\text{H}_2\text{O}^+$ , and OH radicals and atomic hydrogen in beryl. Samoilovich, M. I.; Novozhilov, A. I. (USSR). Zh. Neorg. Khim. 1970, 15(1), 84-6 (1970). The free radicals  $\text{Me}$ ,  $\text{H}_2\text{O}^+$ , HO, and at. H were detected by ESR in beryl after  $\gamma$  irradiation. The exptl. data confirm that, with the exception of at. H which replaces Be ions in tetrahedral sites, the free radicals are located in the structural channels of beryl.

HMJR -

REEL/FRAME

19710904

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USSR

UDC 536.24.001.24

MAKHVILADZE, G. M., and NOVOZHILOV, B. V.

"Two-Dimensional Stability in the Combustion of Condensed Systems"

Minsk, Teplo- i massoperenos -- sb. (Heat and Mass Transfer -- Collection of Works), Vol 2, Part 2, 1972, pp 454-463 (from Referativnyy Zhurnal -- Teploenergetika, No 10, 1972, Abstract No 1CG157)

Translation: The authors, who are employed by the USSR Academy of Sciences' Institute of the Problems of Mechanics and Institute of Chemical Physics, in Moscow, used a linear approximation to investigate stability in the combustion of condensed systems with respect to distortions of the front. They examine two models of the combustion process: gasless systems and a model of the flameless combustion of a solid fuel. They also discuss the question of the effect of heat dissipation on the one-dimensional stability of the gasless states. An increase in the amount of heat dissipated reduces the area of stable combustion, it being the case that one-dimensional instability appears before the combustion process is disrupted by the intense heat dissipation in the wall. (4 illustrations; 12 bibliog. ref.)

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- 52 -

UDC: 621.397:612.843.721

USSR

KIVRIN, V. I., NOVOZHILOV, D. N., SHUMLYAYEV, V. S.

"On Calculating the Optical System of a Stereo Television Camera With Short Transmission Basis"

V sb. Materialy Nauch.-tekhn. konf. Leningr. elektrotekhn. in-tsvyazi. Vyp. 3 (Materials of the Scientific and Technical Conference of Leningrad Electrical Engineering Institute of Communications--collection of works), Leningrad, 1971, pp 102-105 (from RZh-Radiotekhnika, No 3, Mar 72, Abstract No 3G114)

Translation: Two types of attachments for a stereo television camera with short transmission basis are considered. The advantages of constructing a stereo television camera with orthogonal arrangement of the transmitting tubes and semitransparent mirror are demonstrated. Resumé.

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UDC 616.001.16+359.6+613.67

USSR

ALFIMOV, N. N., ~~NOVOZHILOV, G. N.~~, and YEMEL'YANENKO, M. I.

"Heat Disorders Among Ship Personnel During Cruises in the Low Latitudes"

Moscow, Voenno-Meditsinskiy Zhurnal, No 7, 1972, pp 81-86

Abstract: The literature, mostly non-Soviet, on the variety of disorders encountered in ship personnel as a result of exposure to high temperatures is reviewed. These disorders are responsible for a substantial percentage of the total sick rate among naval personnel serving in the low latitudes. They include heat stroke, heat exhaustion, heat syncope, heat cramps, asthenia or transient heat fatigue, and edema of the legs and feet. Each entity is discussed in terms of frequency, cause, and symptoms. A chart based on the literature data shows the possibility of a given disorder arising in relation to the temperature conditions and length of time people are exposed to them.

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UDC 911.3:616-02:613.12

USSR

NOVOZHILOV, G. N.

"Contents-by-Weight of Oxygen in the Air and Some Pathological Reactions in People During Passage Along the Northern Ocean Route"

V sb. Akklimatiz i kraev. patol. cheloveka na Severe (Acclimatization and Regional Pathology of Man in the North -- collection of works), Arkhangel'sk, 1970, pp 129-133 (from RZh-Meditsinskaya Geografiya, No 2, Feb 71, Abstract No 2.36.41) by I. Mysheva

Translation: During a 35-day trip in July/August along the Leningrad-Murmansk-Petropavlovsk-Kamchatka route, the content-by-weight of oxygen in the air fluctuated within the limits of 287.3-322.9 g/m<sup>3</sup>. Three periods of a drop in oxygen content by 13-17 g/m<sup>3</sup> were observed in the course of 2.4 days. When the content-by-weight of oxygen dropped, complaints of a drop in general well-being, headaches, and pains in the heart region were noted. The total number of people with disturbed well-being was 25% of the crew. The most pronounced drop in the contents-by-weight of oxygen was linked to the effect of a combination of an increase in atmospheric humidity and temperature and a decrease in atmospheric pressure.

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1/2 028 UNCLASSIFIED PROCESSING DATE--27NOV70  
TITLE--EXPERIENCE FROM SURGICAL INTERVENTION ON SHIPS SAILING AT LOW  
LATITUDES -U-  
AUTHOR-(03)-NOVOZHILOV, G.N., BONADYSEV, N.Z., DODOCHKIN, N.A.  
COUNTRY OF INFO--USSR  
SOURCE--VOYENNO MEDITSINSKIY ZHURNAL, MOSCOW, USSR, JULY 1969, NR 7, P  
69-70  
DATE PUBLISHED----JUL70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--SURGERY, NAVAL MEDICINE, WOUND, MICROORGANISM CONTAMINATION,  
PAIN, STOMACH

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRA--3006/1734

STEP NO--UR/0177/69/000/007/0069/0070

CIRC ACCESSION NO--AP0135312

UNCLASSIFIED

2/2 028

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0135312

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. AT LOW LATITUDES THE POST OPERATIVE COURSE OF THE DISEASE WAS CHARACTERIZED BY THE BANDAGE COVERING THE INCISION BEING SOAKED THROUGH WITH PERSPIRATION. THE INCREASED LEVEL OF PERSPIRATION WHICH CAUSES MACERATION AND LOWERING OF THE ACIDITY OF THE SKIN CREATES FAVORABLE CONDITIONS FOR THE VITAL ACTIVITY OF MICROORGANISMS AND FOR THEIR PENETRATION INTO THE INCISION. IN ORDER TO PREVENT INFECTION OF THE INCISION IT WAS NECESSARY EACH DAY UNTIL THE REMOVAL OF THE STITCHES TO CLEAN THE SKIN AND CHANGE THE BANDAGE. THE STITCHES WERE REMOVED ON THE SEVENTH TO EIGHTH DAY. MOST OF THE PATIENTS (61 PERSONS) STAYED IN THE INFIRMARY FOR 8 TO 11 DAYS; THE REMAINING ONES STAYED 12 TO 14 DAYS. THE LONGER TREATMENT OF THE 7 PATIENTS WAS IN CONNECTION WITH SUPPURATION OF THE INCISION FROM THE OPERATION. THE APPEARANCE OF SUPPURATION DURING THE POST OPERATIVE PERIOD, IN SPITE OF THE CAREFUL INDIVIDUAL ATTENTION, APPARENTLY IS EXPLAINED BY THE INFECTION OF THE INCISION AS A CONSEQUENCE OF THE INCREASED LEVEL OF PERSPIRATION UNDER THE UNFAVORABLE MICROCLIMATIC CONDITIONS. NO OTHER COMPLICATIONS WERE OBSERVED AFTER THE OPERATIONS. UPON RECOVERING THE PATIENTS RECEIVED A SHORT PERIOD OF REST AND RELAXATION AND WERE FREED FROM HEAVY WORK AND FROM STANDING WATCH. IN CONCLUSION WE FEEL THAT IT IS NECESSARY TO NOTE THAT IN ORDER TO BE ABLE TO OPERATE EARLIER IN THE CASE OF ACUTE APPENDICITIS THE MEDICAL INDOCTRINATION WORK SHOULD INCLUDE CONSTANT REMINDERS TO THE PERSONNEL OF A SHIP TO GO IMMEDIATELY TO THE MEDICAL SECTION IN THE CASE OF THE OCCURRENCE OF ACUTE PAINS IN THE STOMACH.

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